

170289

**DISPOSITION OF APRIL 18, 1991  
USEPA COMMENTS ON THE  
HEALTH AND SAFETY PLAN,  
QUALITY ASSURANCE PROJECT PLAN,  
AND FIELD SAMPLING PLAN**

**ENVIRO-CHEM SITE  
ZIONSVILLE, INDIANA**

**RECEIVED**

DEC 16 1991

MONITORING AND QUALITY  
ASSURANCE BRANCH  
ENVIRONMENTAL SCIENCES DIV.

**DISPOSITION OF APRIL 18, 1991 USEPA COMMENTS  
ON THE  
HEALTH AND SAFETY PLAN,  
QUALITY ASSURANCE PROJECT PLAN,  
AND FIELD SAMPLING PLAN**

**ENVIRO-CHEM SITE  
ZIONSVILLE, INDIANA**

**DECEMBER 10, 1991**

**PREPARED FOR:**

**ENVIRO-CHEM TRUSTEES**

**PREPARED BY:**

**ENVIRONMENTAL RESOURCES MANAGEMENT-NORTH CENTRAL, INC.  
102 WILMOT ROAD, SUITE 300  
DEERFIELD, ILLINOIS 60015  
PROJECT NO. 91104**

**DISPOSITION OF APRIL 18, 1991 USEPA COMMENTS  
ON THE HEALTH AND SAFETY PLAN,  
QUALITY ASSURANCE PROJECT PLAN,  
AND FIELD SAMPLING PLAN**

**ENVIRO-CHEM SITE  
ZIONSVILLE, INDIANA**

Note: The EPA comments are typed in bold.

**Health and Safety Plan**

1. The Health and Safety Plan should contain a short description and history of the site. This description should include information on the form of hazardous waste deposition: e.g., pits, soils, tanks, drums, lagoons, etc.

**Response:**

Section 1.0 of the Health and Safety Plan (HSP) was modified as requested.

2. Additionally, the types of operations to be performed should be listed, e.g., soil removal, pumping, excavating lagoons, removing drums, large tanks, installing monitoring wells. The hazards of the operations which will be performed must be listed together with the procedures to be used to control the hazards. Levels of personal protective equipment for the tasks must be included.

**Response:**

Section 1.0 of the HSP was modified as requested.

3. Table 3-1 - **Summary of Exposure Limits and Toxicity Data**

The time-weighted average levels of the compounds listed in the plan change from page 1 to page 2 of this table. The following listed compounds have revised OSHA permissible exposure limit/time-weighted average levels which were effective September 1, 1989:

Chloroform	2ppm
Perchloroethylene	25ppm
Trichloroethylene	50ppm

The OSHA permissible exposure limit for methylene chloride is in the process of being revised. NIOSH, however, has recommended for several years that work exposure

Environmental Resources Management - North Central, Inc.

to methylene chloride be reduced to the lowest feasible concentration. Additionally, NIOSH recommends supplied air respiratory protection at any detectable concentration.

Response:

Table 3-1 of the HSP was modified as requested.

4. If air purifying respirators are to be used as protection against methylene chloride, they must be gas masks equipped with an appropriate combination canister. Cartridge type respirators cannot be used as protection against this compound, regardless of concentration.

Response:

The HSP was modified as requested.

5. Because of the difference ionization potentials of the compounds, you may be able to use different energy probes with the HNu to get some indication of the compounds and their concentrations.

Response:

No response is necessary.

6. The last paragraph of Section 8.1 states that Level C respirator protection will be required for sampling waste residuals in tanks and containers regardless of HNu readings. How large are the tanks and containers? Will they be entered? If they are to be entered, a written confined space entry permit procedure must be prepared. This must include all monitoring requirements, respiratory protection, safety retrieval, observer duties, communications, ventilation procedures, etc.

Response:

The revised HSP covers only the water sampling activities associated with the site remediation. As specified in Section 1.0 of the revised HSP, the remediation contractor(s) will prepare one or more HSPs for the other remediation activities.

7. **The names of site personnel, safety officer and alternate safety officer must be in the plan before operations begin.**

Response:

The contractor for the water sampling activities has not been selected. Therefore, specific names cannot be provided.

8. **A map of the site, delineating the work zones must also be included in the final version of the plan.**

Response:

Figure 4-1 has been included in the HSP in response to this comment.

**Quality Assurance Project Plan (QAPP)**

**I. Project Description**

- A. **Provide a list of the contaminants found on site and include data gathered from the Remedial Investigation (with the detection limits).**

Response:

Table 1-1, a summary of the data from the Remedial Investigation (RI), has been added to the QAPP. The detection limits for each sample were not provided in the RI.

- B. **Provide a brief geological and hydrologic description of site or reference where it may be found.**

Response:

Section 1.2.3, Geology and Hydrogeology, has been added to the QAPP. This section was adapted from the "Remedial Action Master Plan" prepared by CH2M Hill, dated March 31, 1983.

- C. **Describe all activities to occur at the site including the installation of RCRA compliant-cover, soil vapor extraction, and all sampling. Describe soil sampling, grain size distribution, water level measurements, vapor sampling, and organic carbon content analysis as discussed in the Field Sampling Plan (FSP).**

Response:

The RCRA-compliant cover and the soil vapor extraction system are described in detail in Exhibit A, the Remedial Action Plan (RAP). A brief description of the remediation activities has been included in Section 2.2 of the FSP and is referred to in Section 1.1. of the QAPP, and all of the required sampling procedures are described in the revised FSP. Particle size analysis is now discussed in the revised QAPP. Organic carbon content will not be analyzed in this project.

- D. **Specify the intended data usage and Data Quality Objectives for all field measurements and laboratory analyses.**

Response:

The intended data uses and the Data Quality Objectives (DQOs) are listed in Table 1-8 of the revised QAPP.

- E. **Provide site maps indicating sampling locations and the locations for the installation of new monitoring wells.**

Response:

The sampling locations, including monitoring wells, are shown in Figures 4-1 and 4-2 of the revised FSP.

- F. **Indicate the rationale of the selected sampling locations.**

Response:

The rationale behind the selection of the sampling locations is described in Section 4.0 of the revised FSP. With the exception of the water background samples, all sampling locations and frequencies are specified in Exhibit A.

- E. Discuss in more detail the responsibilities of the contractor's Project Manager, contractor's Quality Assurance Officer, and the Field Team Leader.

Response:

The QAPP has been revised as requested.

- F. Include a figure indicating the project organization and the lines of authority.

Response:

A figure demonstrating the project management structure has been included in the revised QAPP.

**III. Quality Assurance Objectives**

- A. On page 3-1, state that trip blank samples (two unopened 40 ml VOA vials filled with reagent water) are required for each shipment cooler containing VOA water samples.

Response:

The QAPP has been revised as requested.

- B. On page 3-1, correct the statement pertaining to field duplicate samples, because these samples only provide information on the precision of sampling procedures.

Response:

Section 3.1 of the revised QAPP now contains the following statement: "Field duplicate samples are analyzed to check for sampling reproducibility."

- C. On page 3-2, change the identification number for the organic SOW to "SOW-8/87". Make this correction throughout the QAPP and FSP.

Response:

The following organic SOWs will be used for the project: SOW OLC01.0 and SOW OLM01.0 (with the revisions included in OLM01.1 and OLM01.1.1). These SOW numbers have been corrected throughout the revised QAPP and FSP.

- D. Specify the accuracy requirements for field instruments (HNU, pH meter and specific conductance).**

**Response:**

The accuracy requirements for the pH meter and specific conductance meter are discussed in Section 3.2 of the revised QAPP and summarized in Table 3-2. However, since the HNU will be used only for Health and Safety purposes, it is not discussed in the QAPP.

- E. Reorganize Table 3-1 of the QAPP and Table 4-1 of the FSP in the following manner:**

- 1. Combine the information of the two tables into one.**
- 2. State the frequency requirements for trip blank samples as a footnote. See comment III-A.**
- 3. Estimate the number of samples to be analyzed.**
- 4. Add as a footnote, "extra sample volumes shall be collected for VOCs, BNAs, and pest/PCBs water samples designated for MS/MSD samples. Three times the normal volume will be collected for VOCs and double the normal volumes for BNAs and pest/PCBs".**
- 5. All field measurement shall be included under the column "Field Parameter" in this table.**
- 6. "Duration and frequency" requirements in Table 3-1 are confusing. Clearly address how sampling ground water at a frequency of 4/year adds up to a total of 56 samples.**
- 7. Include all sampling matrices and parameters in table. See comment I-C.**

**Response:**

Table 1-2 of the revised QAPP (which is also Table 4-2 of the FSP) combines the information previously presented in Tables 3-1 and 4-1 of the QAPP and FSP, respectively. The required modifications have been included in the new tables.

- F. Describe how precision will be assessed.**

**Response:**

Section 12.2.1 of the revised QAPP explains how precision will be assessed.



- G. Please state that representativeness will be achieved by "proper sampling and handling techniques, that is, preserving samples, extracting, and analyzing samples within required holding times and using clean and appropriate sampling containers. The absence of contamination can be assessed by analyzing field blanks and the adequacy of the sampling procedures can be assessed by analyzing field duplicates".

Response:

The revised QAPP contains similar language taken from the Region V "Model QAPjP."

- H. For the completeness requirements of the project, 100% for background samples and 90% or better for field measurements.

Response:

The QAPP has been revised as requested.

**IV. Sample Custody Procedures**

- A. Describe the chain-of-custody for the laboratory.

Response:

The laboratory chain-of-custody procedures are described in the Appendices of the revised QAPP.

- B. Attachment B shall be deleted, because it is used for federal-lead projects.

Response:

The referenced Attachment is not included in the revised QAPP.

**V. Calibration Procedures and Frequency**

**Specify the calibration procedures and frequency for all field and laboratory instruments, including initial calibrations and continuing calibrations checks.**

Response:

The calibration procedures and frequencies are described in Section 6.0 of the revised QAPP.

## **VI. Analytical Procedures**

- A. Include Standard Operating Procedures for all non-CLP analyses, such as, soil vapor extractions, grain size distribution, organic carbon content, and vapor sampling.**

**Response:**

The revised QAPP includes SOPs for soil vapor, 1,1-dichloroethane (1,1-DCA), tin, and particle size analyses. The soil vapor sampling procedure is described in Section 6.1 of the revised FSP.

- B. Delete "tin" from Table 7-1, because it is not a CLP parameter.**

**Response:**

The analysis for tin in on-site subsurface water is specified in Exhibit A. The SOP for this analysis is included in Appendix A.1 of the revised QAPP.

- C. Describe the method to be used to detect low concentration constituents in the presence of high concentrations.**

**Response:**

Section 9.2 of the revised QAPP presents the procedures specified in Exhibit A to obtain "confirmed" data. These procedures primarily consist of analyzing undiluted samples, if necessary, to demonstrate compliance for constituents present at low concentrations.

## **VII. Data Reduction, Validation and Reporting**

- A. Describe the method to be used for data reduction.**

**Response:**

Section 9.1 and the SOPs in the revised QAPP contain a description of the data reduction methods.

- B. Describe the procedure and criteria to be used for data validation and the reporting format, for nonCLP parameters.**

**Response:**

The QAPP has been revised as requested.

- C. The data package/data deliverables shall also include all raw data, chromatograms, and mass spectra.

Response:

The QAPP has been revised as requested.

**VIII. Preventative Maintenance**

The CLP SOWs do not contain procedures or schedule for preventative maintenance of laboratory instruments; please address this element in the QAPP.

Response:

This information is included in Section 11.1 and the appendices in the revised QAPP.

**IX. Specific Routines to Assess Data Precision, Accuracy and Completeness**

Give specific equation for calculating precision and accuracy.

Response:

Section 12.0 of the revised QAPP contains the requested equations.

**X. Corrective Action**

Describe the mechanism of triggering the initiating corrective action and the procedure for initiation and approval of such corrective actions. Specify the responsible parties for initiating and approving the corrective actions.

Response:

Section 13.0 of the QAPP has been revised as requested.

## **Field Sampling Plan (FSP)**

### **A. Describe in detail the soil vapor extraction and RCRA-compliant cover.**

#### **Response:**

The soil vapor extraction system and the RCRA-compliant cover will be designed and constructed in accordance with the requirements indicated in Exhibit A. The soil vapor extraction system and RCRA-compliant cap are described in detail in Exhibit A and in brief in Section 2.2 of the revised FSP.

### **B. Ground Water Monitoring (Section 4.1)**

Clearly discuss the wells to be sampled, existing and/or new wells. Are the wells indicated for sampling in Figure 4-1 existing and/or new wells. Please clarify.

#### **Response:**

All of the wells to be sampled except for one existing monitoring well (ECCMW13) are new wells. The text and figures of the FSP have been clarified with respect to this issue.

### **C. Sample Designation (Section 5.0)**

#### **1. Include the sample number in the sample number system.**

#### **Response:**

The third bullet in Section 5.0 of the revised FSP specifies the inclusion of the soil, trench, monitoring well, or surface water sampling location, or the trip blank number.

#### **2. If soil samples are to be collected at different depths, this must also be reflected in the numbering system.**

#### **Response:**

The FSP has been revised as requested.

#### **3. Delete sediment designation, since sediment samples will not be collected.**

#### **Response:**

The FSP has been revised as requested.

- D. Describe well installation procedures in more detail and since the wells are to be installed for long term monitoring, well screens and riser pipes must be constructed of stainless steel.**

**Response:**

Exhibit A specifies that the monitoring wells will be constructed with PVC materials, and Karen Vendl of the USEPA indicated in a July 9, 1991 letter that this is acceptable. The well installation procedures are described in detail in the revised FSP.

- E. Describe the selection of location and detailed procedures for collecting background samples.**

**Response:**

As stated in Section 4.0 of the revised FSP, the Remedial Action will be performed in accordance with Exhibit A, which designates all sampling locations and frequencies, with the exception of the background water samples.

- F. Sample Withdrawal (Section 6.1.2.4)**

**On page 6-8, correct the frequency for collecting replicate samples to "one per 10 or fewer investigation samples".**

**Response:**

Section 6.3.2.4 of the revised FSP specifies that one duplicate will be collected for each group of 10 or fewer investigative samples.

- G. Surface Water Sampling (Section 6.2)**

**Describe in detail the procedures for collecting surface water samples.**

**Response:**

Section 6.4 of the revised FSP describes the collection of surface water samples.

- H. Describe in detail the procedures for collecting air samples including the preparation of cartridges, sample volume, flow rate, etc.**

**Response:**

Section 6.1 of the revised FSP describes the air sampling procedures, including sample volume and flow rate.

- I. Describe packaging, handling, and shipment of samples including time considerations.**

**Response:**

Section 7.1 of the revised FSP describes the packaging, handling, and shipment of samples. The Region V Model QAPjP was used as a reference for writing this section.

- J. Describe decontamination procedures in detail for all sampling equipment.**

**Response:**

The decontamination procedures are described in Section 6.0 of the revised FSP.

- K. Discuss the documentation of sampling activities, including forms, notebooks, bound log books, and procedures to record the history, sampling conditions, etc. and analyses to be taken.**

**Response:**

Section 6.0 of the revised FSP refers to Section 5.1.2. of the revised QAPP for details on documentation.

- L. Correct the following in Table 7-1:**

- 1. The holding time for BNAs and pest/PCBs in water is 5 day until extraction and analysis within 40 days of extraction.**
- 2. Include the holding time for Hg (26 days) with that for metals.**

**Response:**

The FSP has been revised as requested.